KURNOSOV, A.M., kand. tekhn. nauk; SHAVRINA, R.F., red.

[Characteristics of technical and economic methods of solving the main problems of coal mining, applicable to the conditions in flat seams in the Donets Basin; report at the All-Union Conference of Coal Industry Planners] Kharakteristika tekhniko-ekonomicheskikh metodov resheniia osnovnykh zadach proektirovaniia gornogo khoziaistva ugol'nykh shakht (primenitel'no k usloviiam razrabotki pologikh plastov v Donbasse); doklad na Vsesoiuznom soveshchanii proektirovshchikov ugol'noi promyshlennosti. Moskva, In-t gornogo dela im. A.A.Skochinskogo, 1964. 27 p.
(MIRA 18:9)

KURNOSOV, A.M., kand.tekhn.nauk; USTINOV, M.I., kand.tekhn.nauk; ZYKOV, V.M., kand.tekhn.nauk; LIKAL'TER, L.A., gornyy inzh.; ANISIMKIN, A.Ye., gornyy inzh.; USATOV, A.I., gornyy inzh.

Use of design methods in determining optimum parameters for coal mines to be reorganized. Ugol' 40 no.9:52-58 S '65.

(MIRA 18:10)

1. Institut gornogo dela imeni A.A.Skochinskogo (for Kurnosov, Ustinov, Zykov, Likal'ter). 2. Luganskproyekt (for Anisimkin, Usatov).

SUDOPLATOV, A.P., red.; KURNOSOV, A.M., red.

[Donets Basin mines] Shakhty Donetskogo basseina. Moskva, Nedra, 1965. 610 p. (MIRA 19:1)

KURNOSOV, A.P., inzh.

Methods for calculating the reserves between machines in continuous lines. Der. prom. 11 no.7:6-8 Jl '62. (MIRA 17:1)

KURNOSOV, A.P., inzh.

Role of flexible ties in increasing the productivity of automatic machine lines. Der. prom. 12 no.5:6-9 My '63. (MIRA 16:7)

1. Lesotekhnicheskaya akademiya im. S.M. Kirova.
(Woodworking machinery)

8(6) SOV/91-59-10-11/29

AUTHOR: Kurnosov A.T., Engineer

TITLE: Improvement of Deaerator Performance

PERIODICAL: Energetik, 1959, Nr. 10, p 21, (USSR)

ABSTRACT: At the Michurinskaya TETs, two deaerators are installed that work concurrently on water and steam. The steam enters through a pipeline under pressure of 5 atm, passes the reduction valves, 80 mm in diameter, and comes to the collector; from there it enters through individual regulating baffles, of 30 cm in diameter, into the heads of deaerators. Such a layout eliminated the possibility of automation of this installation for following causes: Reduction valves did not ensure the necessary passage of steam for removal of air from the water; diameters of the regulating baffles were too large to ensure a smooth reduction of steam down to 1.2 atm. pressure; with an individual regulator for each deaerator, it was impossible to attain a uniform pressure: when changing pressure in the deaerator heads, the water level in the tanks underwent a sharp variation. On

Card 1/2

Improvement of Deaerator Performance

the initiative of TETs Chief, V.F. Kiselev, Engineer A.T. Kurnosov, M.P. Drozdov and Foreman B.A. Vidanov, it was proposed introducing the following alterations: reduction valves were dismantled; the steam feed pipe was attached to the collector middle; regulating baffles were removed; one of them, after being reduced from 30 cm to 20 cm diameter, was mounted on the steam feed pipe. To ensure the regulation of water and condensate feed into the deaerator, the floats were increased in diameters from 25 to 30 cm; their height was respectively increased from 10 to 25 cm. This secured, on the chemically pure water feed line, the required tightness of valve closing. The above alterations permitted a reliable automatic performance of deaerators. There is 1 diagram.

Card 2/2

KURNOSOV, A.T., inzh.

Adjustment of the operation of a boiler. Energetik 9 no.1: 11-13 Ja '61. (MIRA 16:7)

(Boilers)

KURNOSOV, A.T., inzh.

Redesigning of feed pumps. Energetik 9 no.2:11-12 F '61.
(MIRA 16:7)

(Pumping machinery) (Boilers)

KURNOSOV, A.T., inzh.

Concerning the innovation of the thermal networks of medium-sized heat and electric power plants. Elek. sta. 32 no.12:13-15 D '61. (MIRA 15:1)
(Heating from central stations) (Electric power plants)

KUZNETSOV, A.T., inzh.

Prevention of damages in the LUngstrem turbine. Energetik 10 no.1:9 Ja '62. (MIRA 14:12)
(Steam turbines)

KURNOSOV, A.T., inzh.

Improvement of the thermal network of a heat and electric power plant. Energetik 10 no.1:10-11 Ja '62. (MIRA 14:12)
(Heating from central stations)
(Electric power plants)

KURNOSOV, A.T., inzh.

Use of scavenging feed water for preventing incrustation formation in turbine condensers. Energetik 10 no.6:30-31 Je '62. (MIRA 16:3)

(Condensers (Steam))
(Feed water) (Steam turbines)

KURNOSOV, A.T., inzh.

Comparative data on wet coal feeding machinery. Elek.sta. 33 no.12:14-15 D '62. (MIRA 16:2)

(Furnaces)

ANDRYUSHCHENKO, A.I., doktor tekhn. nauk; LAPSHOV, V.N., kand. tekhn. nauk; KURNOSOV, A.T., inzh.; YARMAK, L.N., inzh.

Effectiveness of regenerative feed-water heating in waste-heat boilers. Teploenergetika 10 no.8:29-33 Ag '63. (MIRA 16:8)

1. Saratovskiy politekhnicheskiy institut.
(Boilers)

KURNOSOV, V.T., inzh.; ANDRYUSHCHENKO, A.I., doktor tekhn. nauk, prof.; LAPSHOV, V.N., kand. tekhn. nauk, dotsent

Selection of the equations of state for the calculation of the parameters of water and steam using electronic computers. Izv. vys. ucheb. zav.; energ. 8 no.8:58-66 Ag '65. (MIRA 18:9)

1. Saratovskiy politekhnicheskiy institut (for Kurnosov, Andryushchenko). 2. Voronezhskiy politekhnicheskiy institut (for Lapshov). Predstavlena kafedroy teploenergetiki Saratovskogo politekhnicheskogo instituta.

LYSOV, N.Ye., doktor tekhn. nauk, prof.; KURKOSOV, A.V., inzh.

Optimal geometric relationships of the basic dimensions of d.c. electromagnets. Elektrichestvo no.8:33-35 Ag '65. (MIRA 18:9)

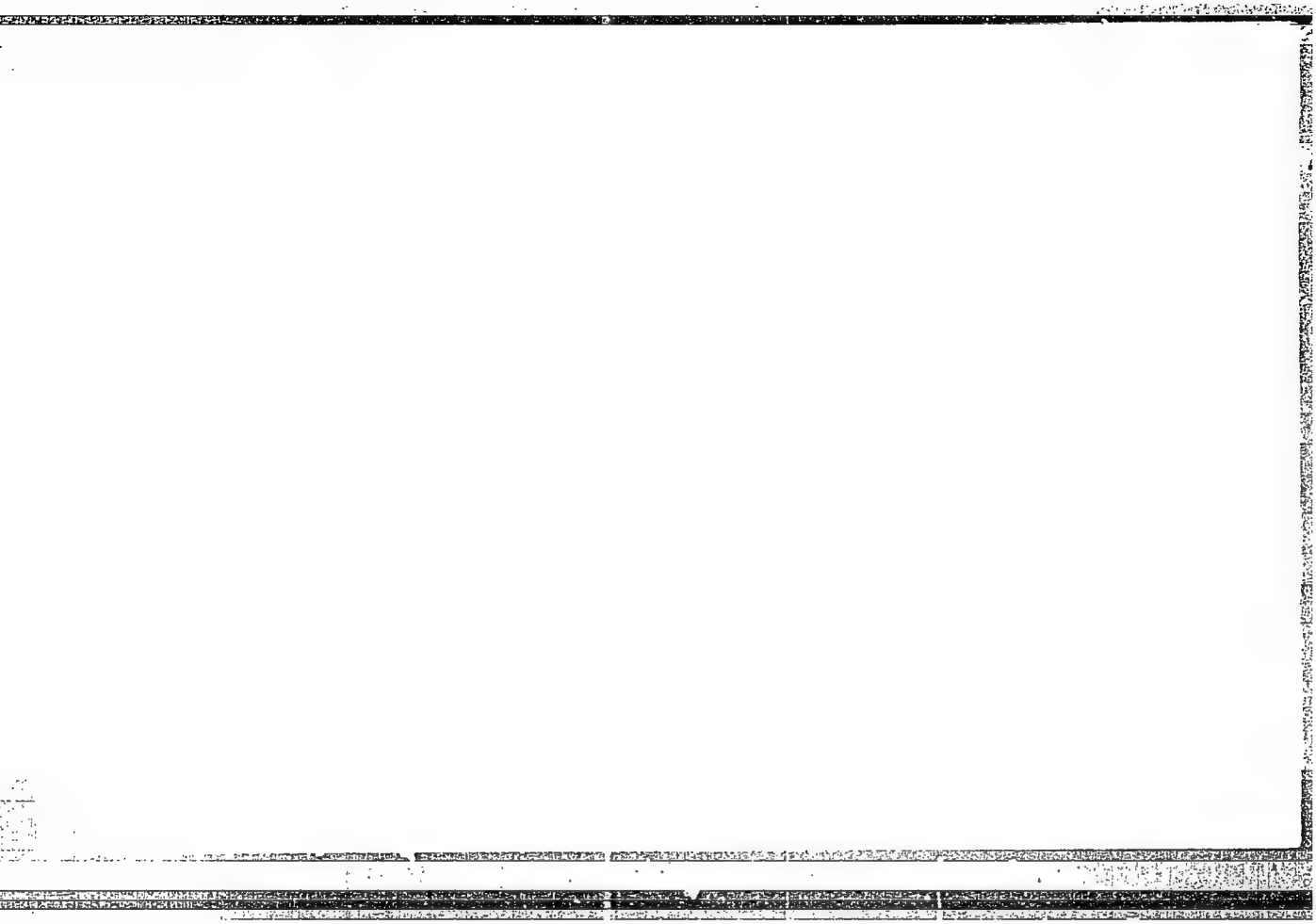
1. Moskovskiy energeticheskiy institut.

KURNOSOV, B.D.

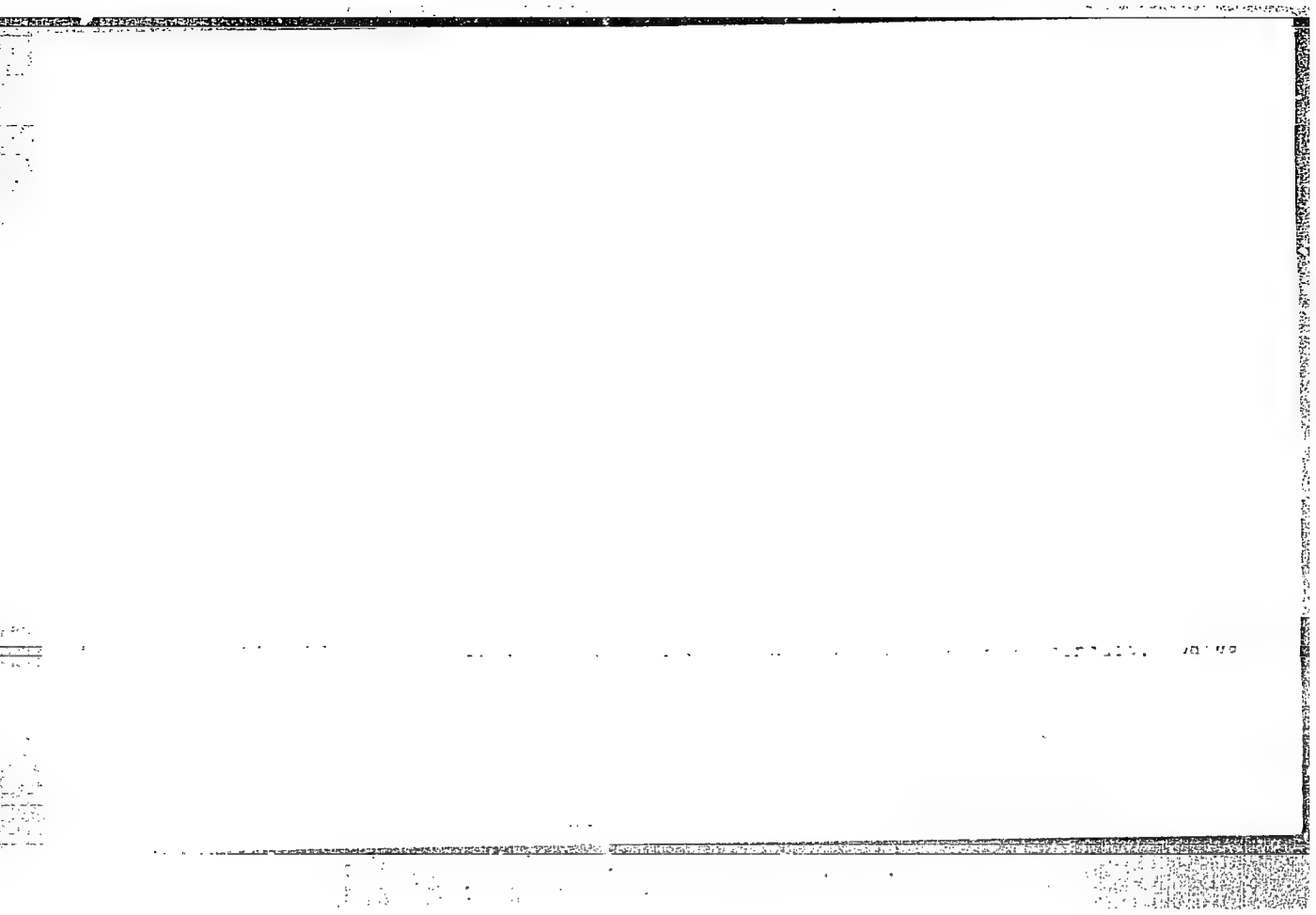
KURNOSOV, B.D., inzh.

Germanium rectifiers at high frequencies. Elektrichestvo no.12:54-56 D '57. (MIRA 10:12)

1.Vsesoyuznyy elektrotekhnicheskiy institut im. Lenina.
(Electric current rectifiers)
(Semiconductors)



APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000927720016-7"



APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000927720016-7"

SUBMITTED: 00

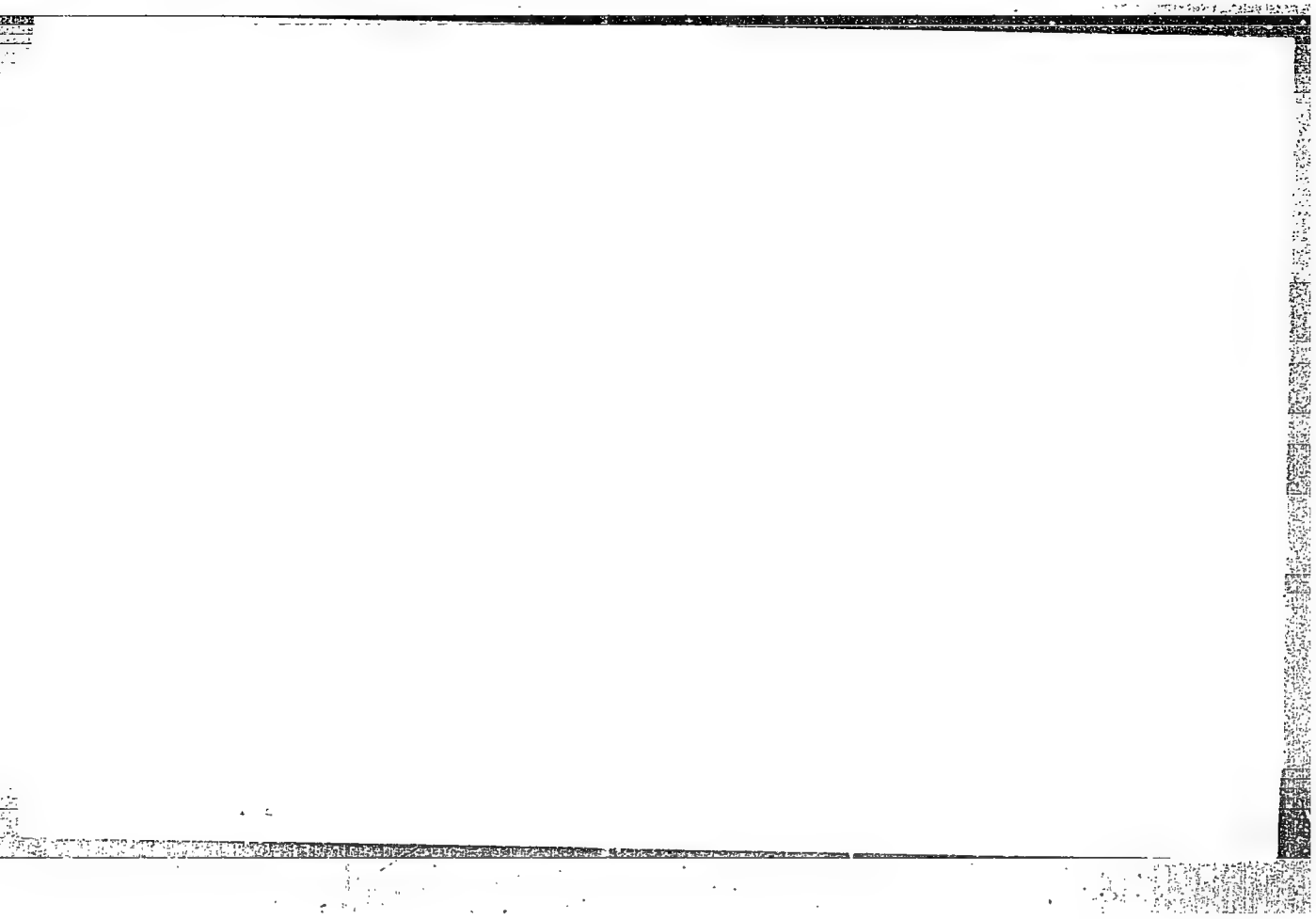
ENCL: 00

EC

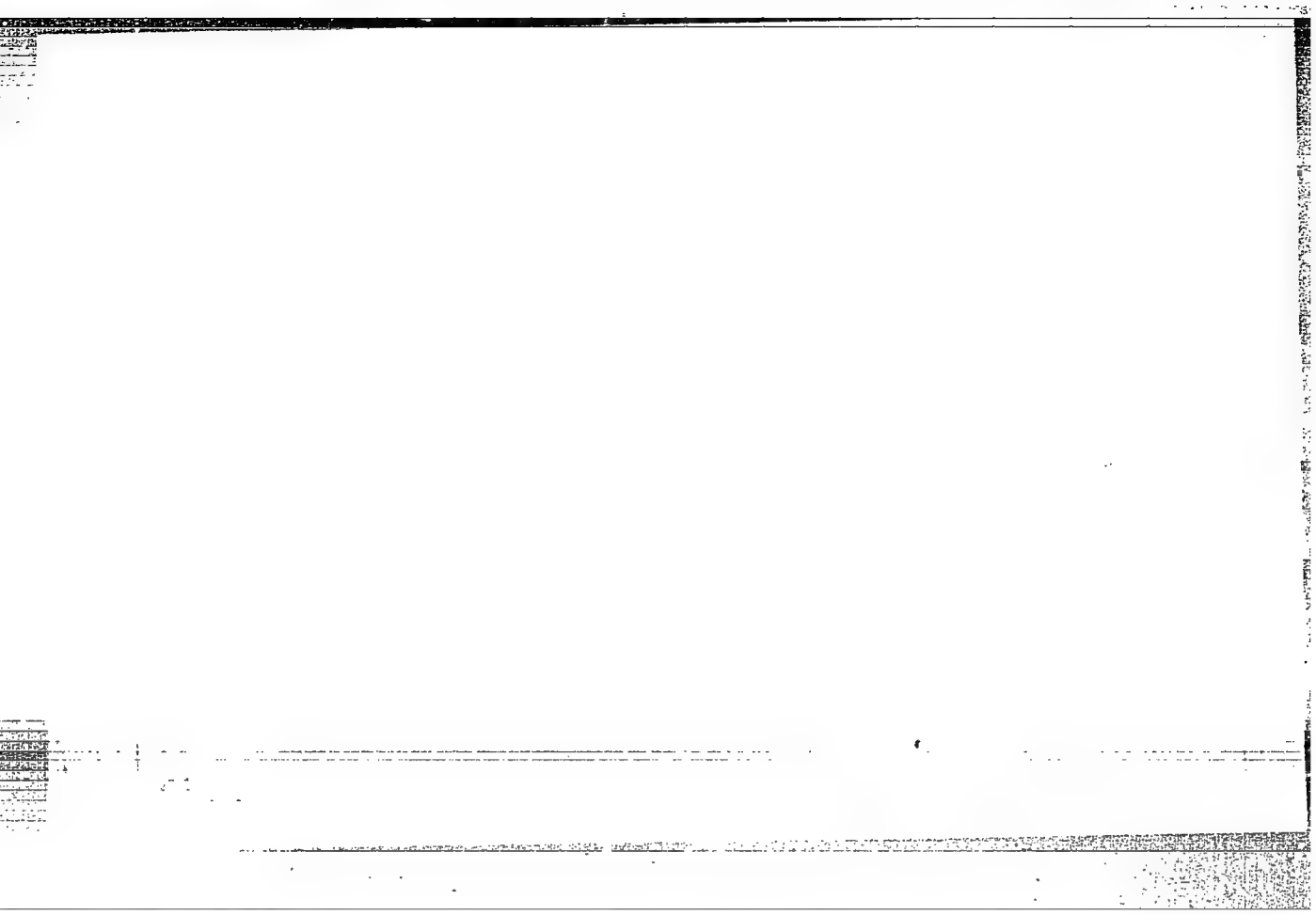
NO REF SOV: 003

OTHER: 002

Card 3/3



APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000927720016-7"



KURNAKOV, L. S., and YARUGOVICH, M. V.

"Method of Measuring Stresses in the Surface Layer of Metal Products," Zav. Labor. No. 10, 1939.

CA KURNAKOV, D. G.

9

Distribution of deformation in metallic crystals of zinc during deformation by slip. D. G. Kurnosov, N. M. Tronina and M. V. Yakutovich. *J. Tech. Phys.*, **18**, (U.S.S.R.) 197-200(1948).—The distribution of plastic deformation by slip is experimentally detd. in Zn crystals by studying the topography of the surface of a microsection of deformed mono- and polycryst. samples. A microinterferometer was used as a microscope objective to measure irregularities in the surface of approx. 5×10^{-6} mm. By examn. of the interference bands produced on the surface with light of λ 5000 A., the degree of deformation of the surface and the nature of the deformation can be detd. accurately during formation and development. Chemically pure Zn, twice distd. *in vacuo*, and one sample of α-Fe were examd., deformation being produced by a specially designed press at 19°, 200°, and −196°. For a monocryst. specimen, plastic deformation is localized only to an insignificant extent in the slip planes, most is distributed through the crystal with low deformations. The vol. of the crystal is involved in deformation from the beginning, and this accounts for the hardening of all the crystal without assuming the presence of a sharply-defined structure irregularity or the formation of sep. cryst. layers. H. A

1951

KURNOSOV, I.; SHAPIRO, S.

Substitute for glue. Prom.koop. no.7:39-40 Jl'55. (MLRA 8:11)

1. Starshiy proizvoditel' rabot "Rosotdelstroya" (for Kurnosov)
2. Master otdelochnykh rabot "Glavmosstroya" (for Shapiro)
(Glue)

KURNOSOV, K.M.

Study on the growth and development of allantochorion in cattle. Doklady Akad. nauk SSSR 81 no.6:1163-1166 21 Dec 51. (CLML 21:5)

1. Presented by Academician K.I. Skryabin 25 October 1951.

KURNOSOV, K.M.

Embryogenesis of certain muscles in the shoulder and shoulder girdle in cattle. Trudy Inst. morf. zhiv. no.12:94-134 '54. (MLRA 8:7)
(Muscle) (Veterinary embryology) (Cattle)

KURNOSOV, K. M.

"The Development of the Musculature in the Anterior Extremities of Cattle." Cand Biol Sci, Inst of Animal Morphology imeni A. N. Severtsov, Acad Sci USSR, Moscow, 1955. (KL, No 13, Mar 55)

SO: Sum. No. 670, 29 Sep 55—Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

GAZARYAN, K.G.; KURNOSOV, K.M.

Interfetal connections and freemartins in multiple pregnancies of sheep. Izv.AN Arm.SSR.Biol.nauki 12 no.3:67-74 Mr '59. (MIRA 12:9)

1. Institut morfologii zhivotnykh im. A.N.Severtsova AN SSSR.
(SHEEP) (BIRTH, MULTIPLE) (PARABIOSIS)

KURNOSOV, K.M.

Interfetal connections during embryonic parabiosis in sheep. Zhur. ob.biol. 20 no.6:447-454 N-D '59. (MIRA 13:4)

1. Institute of Animal Morphology, Academy of Sciences of the U.S.S.R.
(SHEEP--PHYSIOLOGY) (EMBRYOLOGY--MAMMALS) (PARABIOSIS)

KURNOSOV, K.M.

Anatomicohistological investigation of the development of muscles of the shoulder girdle and the foreleg in the cow embryo. Trudy Inst. morf. zhiv. no.29:14-33 '60. (MIRA 13:12)
(Embryology—Mammals) (Muscles)
(Cattle)

KURNOSOV, K.M.

Significance of morphological study of the afterbirth in determining some characters in newborn farm animals. Biul.MOIP. Otd. biol. 65 no.3:157-158 My-Je '60. (MIRA 13:7)
(PLACENTA) (LAMBS)

KURNOSOV, K.M.

Placental vasuclar pseudo-anastomosis during embryonic parabiosis and cases of freemartinism in sheep. Dokl.AN SSSR 134 no.2: 493-496 S '60. (MIRA 13:9)

1. Institut morfologii zhivotnykh im. A.N.Severtsova Akademii nauk SSSR. Predstavleno akad. K.I.Skryabinym.
(Parabiosis)
(Sterility in animals)
(Sheep--Physiology)

KURNOSOV, K.M.

Significance of morphological study of the placenta for the determination of some characters in newborn farm animals. Zhur. ob. biol. 22 no.2:108-112 Mr-Ap '61. (MIRA 14:5)

1. Institute of Animal Morphology, U.S.S.R. Academy of Sciences, Moscow.
(PLACENTA) (VETERINARY EMBRYOLOGY)

KURNOSOV, K.M.

Observations on the growth and development of chorio-allantois and the formation of the cotyledonal placenta in moose. Dokl. AN SSSR 140 no.4:970-973 O '61. (MIRA 14:9)

1. Institut morfologii zhivotnykh im. A.N.Severtsova AN SSSR. Predstavlena akademikom Yu.A.Orlovym.
(Moose) (Embryology--Mammals)

KURNOSOV, K.M.

Some characteristics of intrauterine development of sheep twins. Zhur. ob.biol. 23 no.3:239-240 My-Je '62. (MIRA 15:6)

1. Institute of Animal Morphology, Academy of Sciences of the U.S.S.R.

(TWINS) (SHEEP)
(VETERINARY EMBRYOLOGY)

KURNOSOV, K.M., kand. biologicheskikh nauk

Causes of the birth of abnormal, dead and underdeveloped lambs. Veterinariia 39 no.11:63-64 N '62. (MIRA 16:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zhivotnovodstva.

KURNOSOV, K.M.

Interfetal placental connections in embryonic parabiosis of moose. Dokl. AN SSSR 142 no.1:253-256 '62. (MIRA 14:12)

1. Institut morfologii zhivotnykh im. A.N. Severtsova AN SSSR. Predstavleno akademikom Yu.A. Orlovym.
(Parabiosis) (Birth, Multiple) (Moose)

KURNOSOV, K.M.

Characteristics of the formation of the placenta in moose (Alces alces). Zool. zhur. 42 no.2:282-288 '62. (MIRA 16:3)

1. Institut of Animal Morphology, Academy of Sciences of the U.S.S.R., Moscow.

(Troitsko-Pechorsk District--Moose)
(Placenta)

KURNOSOV, K.M.

Changes in the intrauterine development and viability of animals under the influence of pathologicoanatomical changes in the fetal membranes. Zhur. ob. biol. 24 no.5: 387-391 S-O '63. (MIRA 17:1)

1. Laboratoriya morfologii zhivotnykh Vsesoyuznogo instituta zhivotnovodstva, Moskva.

KURNOSOV, K.M.

Weight of newborn animals in relation to the ectylesden apparatus of the placenta. Biul. MOIP. Otd. biol. 69 no.4:140-142 Jl-Ag '64. (MIRA 17:11)

SOV/64-58-6-2/15

AUTHORS: Kurnosov, K. P., Fedotina, Z. Kh. Razumovskiy, S. D., Khanukayeva, Yu. I.

TITLE: The Pyrolysis of Light Distillate Oil (piroliz legkovogo benzina) Study of Pyrolysis Under Laboratory Conditions (Izucheniye piroliza v laboratornykh usloviyakh)

PERIODICAL: Khimicheskaya promyshlennost', 1958, Nr 6, pp 330-332 (USSR)

ABSTRACT: In connection with the realization of the plan to step up the development of the chemical industry also the demand for ethylene is going to rise rapidly so that it will become necessary to find new sources of raw materials. The use of liquefied gas obtained from natural gas is of interest from this point of view. Due to the few references obtainable the present analyses were carried out only on a laboratory scale. Liquefied gas obtained from Tuymazinsk was used in the process. The distillation was carried out in a Podbil'nyakh column. A schematic drawing of the laboratory unit used for the pyrolysis is given. The complete analysis of the gas obtained by pyrolysis was performed by means of the

Card 1/2

apparatus at TsIATIM and the analysis of the unsaturated compounds and hydrogen by means of the apparatus at VTI. It is pointed out that no far-reaching decomposition of the gasoline is achieved by the pyrolysis of liquefied gas at temperatures below 800°. A lengthening of the contact time does not result in an increase of the ethylene yield. A comparison of the results obtained proves that the ethylene yield is increased when the contact time is shortened while temperature is increased. Moreover, as a consequence of higher temperature, more acetylene is obtained, which again can be turned into ethylene by hydration. Tests in the presence of steam proved that the total amount of coke, resins, and losses is somewhat lower than in the pyrolysis performed in the absence of steam. According to the authors, optimum conditions are: a temperature of 825-835°, a maximum contact time of 1 second, and a dilution with steam to the extent of 10-15 per cent by weight. There are 5 figures, 1 table, and 1 reference, 1 of which is Soviet.

RUTKOVSKIY, F., pensioner; KURNOSOV, M.; DROZDOV, V.; PIKULIN, F.(Gor'kiy);

We offer the following solution. Sov.profsoiuzy 7 no.23:
37 D '59. (MIRA 12:12)

1. Tekhnicheskiy inspektor Mosoblprofsoveta (for Kurnosov).
2. Instruktor Belorusskogo respublikanskogo soveta profsoyuzov (for Drozdov).
(Labor laws and legislation)

KURNOSOV, M.

New designs of drilling bits. Neftianik 7 no.4:19-20 Ap '62.
(MIRA 15:11)

1. Glavnyy konstruktor Sarapul'skogo zavoda im. Dzerzhinskogo.
(Oil well drilling--Equipment and supplies)

USSR/Machines, Milling
Petroleum Industry

Aug 48

"Some Construction and Technology Problems of Triple-Milling Heads," M. A. Kurnosov, 2 pp

"Neft Khoz" No 8

Discusses a 13 3/4-inch triple-milling head, constructed by Verkhne-Serginsk Factory, and lists possible improvements in its construction and quality, utilizing a more complete production technology. Describes constructional changes, with four illustrations of milling head.

49/49T45

TVOROGOVA; BADAMYAN; KURMOSOV,M.A.; ZAGATIN,M.F.; REYTMAN,I.M., redaktor; PETROVA,Ye.A., redaktor; TROFIMOV,A.V., tekhnicheskiy redaktor

[Catalog of spare parts for petroleum equipment] Katalog zapasnye k neftianomu oborudovaniiu. Moskva, Gos.nauchno-tekhn.izd-vo neftianoi i gorno-toplivnoi lit-ry. Pt.2.[Equipment for drilling wells. Section 1. Drill winches. No.2. Four-speed drill winch, model L1-4M2] Oborudovanie dlia bureniia skvazhin. Section 1. Lebedki burovye. No.2. Lebedka chetyrekhskorostnaia L1-4M2. 1955. 33 p. Pt.3. [Equipment for operating wells. Section 2. Deep well non-insert (pipe) pumps. No.4. NGN2-56. Section 3. Deep well insert pumps. No.5.NGN3-56 3"-1800 (NGB1-56)] Oborudovanie dlia ekspluatatsii skvazhin. Section 2. Nasosy glubinnye nevstavye (trubnye). No.4. NGN2-56. 1955.15 p. Section 3 Nasosy glubinnye vstavye. No.5. NGN3-56 "3-1800 (NGV1-56). 1955. 10 p.

(MIRA 9:3)

1. Soyuzneftеburmashremont, Gosudarvennyy soyuznyy trest. (Oil well pumps) (Petroleum industry--Equipment and supplies)

14(5) SOV/92-59-1-17/36

AUTHOR: Kurnosov, M.A., Senior Designer

TITLE: New Design of Rock Bits (Novaya konstruktsiya burovykh dolot)

PERIODICAL: Neftyanik, 1959, Nr 1, pp 22-23 (USSR)

ABSTRACT: The author states that the three-cone bit, as shown in Fig. 1, is the type of rock bit mostly used in drilling oil and gas wells. The efficiency of bit operation depends on whether the drilling fluid penetrates to the bottom-hole. The removal of cuttings is improved when the drilling fluid stream, flowing through bit holes, comes in close contact with the rocks drilled. Standard bits of the ZD14S type do not ensure this condition. That is why the Sarapul plant im. Dzerzhinskiy has built a new bit of the14SNP type shown in Fig. 2. This bit differs from the standard in so far as it has in the arm of the third cone an extended pivot made in a form of a tube which goes through the hole of the third cone. Furthermore, there are holes in the second and third cone, which allow the drilling fluid to pass through. Thanks to this design the cuttings are easily removed from the bottom hole. The 14SNP bit has been tested by the above-mentioned plant, and drilling results were compared with those obtained by using the standard bit under identical geological conditions.

Card 1/2

Table 1, which gives characteristics of drilling operations carried out by both types of bits, clearly shows that the new bit produces better drilling results. The footage per bit was increased 30.4 percent, and the mechanical drilling speed 32.7 percent. As a result, a considerable saving was realized.

ASSOCIATION: Zavod im. Dzerzhinskogo (Plant im. Dzerzhinskiy)

KURNOSOV, M.A.

New types of production equipment. Neftianik 5 no.9:17-19 S '60. (MIRA 13:9)

1. Glavnyy konstruktor zavoda im. Dzerzhinskogo.
(Oil wells--Equipment and supplies)

KURNOSOV, M.A.

PGN-5A and PGN-6B packers for hydraulic piston pumps. Neftepromm. delo no.8:36-39 '63. (MIRA 17:4)

1. Sarapul'skiy zavod im. Dzerzhinskogo.

ACC NR: AP6015660 (N) SOURCE CODE: UR/0413/66/000/009/0087/0087

INVENTOR: Iordan, G. G.; Kurnosov, N. M.; Levinson, B. A.; Lychakov, N. I.; Tikhomirov, V. P.

ORG: None

TITLE: A radio interference level indicator. Class 42, No. 181326 [announced by the Scientific Research Institute of Heat and Power Engineering Equipment (Nauchno-issledovatel'skiy institut teploenergeticheskogo priborostroyeniya)]

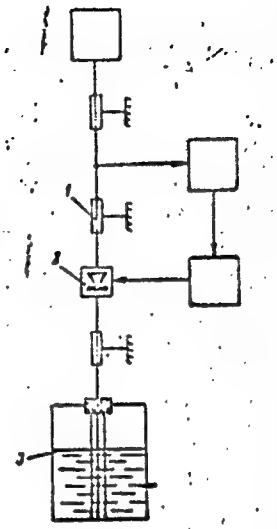
SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 9, 1966, 87

TOPIC TAGS: liquid level indicator, electromagnetic wave interference, electronically variable capacitor

ABSTRACT: This Author's Certificate introduces a radio interference level indicator based on using reflection of high-frequency electromagnetic oscillations from the surface of the medium to be monitored. The unit contains a high-frequency oscillator connected through a length of transmission line to a coaxial pickup and a measurement circuit. Measurement accuracy and reliability are improved by connecting an element in the transmission line with a reactance which depends on the voltage applied to it, e. g. a voltage-variable capacitor. This element compensates the electrical length of the line under the effect of a voltage proportional to the level being measured.

Card 1/2 UDC: 681.128.82

ACC NR: AP6015688



1—transmission line; 2—voltage-variable capacitor; 3—level to be measured

SUB CODE: 14, 09/ SUBM DATE: 21Jul64

Card 2/2

KURNOSOV, N.P.

Veterinary assistance for the collective farms is a great help in the village. Veterinariia 33 no.1:10-13 Ja 56. (MLRA 9:4)

1.Zamestitel' predsedatelya ispolkoma Ryazanskogo oblastnogo Soveta deputatov trudyashchikhsiya.
(VETERINARY HYGIENE)

KURNOSOV, N.S.

Criteria of evaluating work in ferrous metallurgy. Stal' 24 no.12:1135-1137 D '64. (MIRA 18:2)

1. Donetskiy nauchno-issledovatel'skiy institut chernoy metallurgii.

KROL', Lazar' Borisovich; KURNOSOV, P.Ye; VORONIN, K.P., tekhnicheskiy redaktor.

[Characteristics of high-pressure steam-boiler units] Osobennosti kotel'nykh agregatov vysokogo davleniia. Moskva, Gos.energ.izd-vo, 1957. 183 p. (MLRA 10:6)
(Boilers)

KURNOSOV, V., inzh.

Roadside planting in Voronezh Province. Avt.dor. 20 no.7:32 Jl '57. (MIRA 10:10)
(Voronezh Province--Roadside improvement)

ACC NR: AP7007622 SOURCE CODE: UR/0386/67/005/003/0077/0078

AUTHOR: Kurnosov, V. D.; Pleshkov, A. A.; Petrukhina, G. S.; Rivlin, L. A.; Trukhan, V. G.; Tsvetkov, V. V.

ORG: none

TITLE: Emission of a short single pulse by an injection semiconductor laser

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 5, no. 3, 1967, 77-78

TOPIC TAGS: gallium arsenide, laser r and d, laser emission, semiconductor laser, junction diode, laser modulation

ABSTRACT: This is a continuation of earlier work (Pis'ma ZhETF v. 4, 449, 1966) on spike production in a self-modulated GaAs laser, the results of which implied the feasibility of observing very short single light pulses from such a laser when excited by a much longer injection pulse. This possibility was tested in the present investigation using a GaAs diode with diffusion pn junction and a resonator produced by cleavage. An injection pulse of duration ~2 nsec was produced with a ferrite surge line. Streak photographs of the laser output, obtained with high-resolution equipment, showed distinctly that individual light pulses were produced, of approximate duration 2×10^{-10} sec, or about one-tenth the injection duration. Even shorter pulses could be obtained by varying the parameters and duration of the pulses. Orig. art. has: 1 figure. [02]

SUB CODE: 20/ SUBM DATE: 030ct66/ ORIG REF: 001/ ATD PRESS: 5117

Card 1/1 UDC: none

ACC NR: AP7001339 SOURCE CODE: UR/0386/66/004/011/0449/0453

AUTHOR: Kurnosov, V. D.; Magalyas, V. I.; Pleshkov, A. A.; Rivlin, L. A.; Trukhan, V. G.; Tsvetkov, V. V.

ORG: none

TITLE: Self modulation of emission from an injection semiconductor laser

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 4, no. 11, 1966, 449-453

TOPIC TAGS: semiconductor laser, laser emission, laser pumping, light modulation, pn junction, gallium arsenide

ABSTRACT: The authors show first, by analyzing the kinetic equations for the power of an injection-type laser, that self modulation of such a laser is possible if it is assumed that the injection laser has the same self-oscillating properties as an optically pumped one. They then report on the time structure of a GaAs laser emission, observed experimentally by means of an electron-optical converter (EOC) (M. M. Bustlov, Uspekhi nauchnoi fotografii no. 6, 76, 1959) with a time-scanned image (sweep duration ~2 nsec). The GaAs diode with a p-n junction produced by diffusion was excited by single injection-current pulses of 1 - 5 amp and 600 nsec duration, synchronized with the pulsed supply to the EOC. The image of the glowing active layer of the diode was projected by microscope objectives from a vacuum liquid-nitrogen cryostat onto the photocathode of the EOC. The experiments showed clearly the emis-

Card 1/2

ACC NR: AP701339

sion self-modulation (spikes), whose period decreased with increasing injection current (from 0.35 nsec at 2 amp to 0.17 nsec at 4.3 amp). There was no self modulation of the spontaneous emission below threshold. Self modulation periods as low as 0.05 nsec were observed in different diodes with threefold excess over threshold. The synchronous self modulation was accompanied by non-synchronous modulation at individual points, probably due to differences in local thresholds and the inhomogeneous distribution of the injection-current density. The measurement results agree with the calculations in order of magnitude, but a more accurate comparison calls for knowledge of the mode content of the emission, since the calculations were made in the single-mode approximation. The authors thank M. M. Bustlov for consultation and supplying the EOC tubes. Orig. art. has: 1 figure and 3 formulas.

SUB CODE: 20/ SUBM DATE: 29Jul66/ ORIG REF: 002/ OTH REF: 003

Card 2/2

ABRAMSON, KH. I., inzh.; KURNOSOV, V.I., inzh.

Hole boring with electric drills and water flushing. Ugol' 33 no. 7:17-19 Jl '58. (MIRA 11:7)

(Boring)
(Electric instruments)

KURNOSOV, V.N.

Effect of plants in windows on the decrease of natural illumination in classrooms. Gig. i san. no.10:50-52 O '54. (MLRA 7:11)

1. Iz laboratorii gigiyeny osveshcheniya Instituta obshchey i kommunal'noy gigiyeny. AMN SSSR.
(SCHOOLS,
illumination, obstruct. by placing plants in windows)
(ILLUMINATION,
in schools, obstruct. by placing plants in windows)

KURNOSOV, V.N.

Materials on the hygienic aspect of maximum permissible concentration of mercury vapor in the air. Pred. dop. kontsent. atmosf. zagr. no.5:54-71 '61. (MIRA 15:3)

1. Iz Instituta obshchey i kommunal'noy gigiyeny imeni A.N. Sysina AMN SSSR.
(AIR—POLLUTION)
(MERCURY—TOXICOLOGY)

KURNOSOV, V.N., mladshiy nauchnyy sotrudnik

Recent experimental data on the accumulation and distribution of mercury in the organism of experimental animals. Pred.dop.kontsent. atmosf.zagr. no.6:81-95 '62. (MIRA 15:9)

1. Iz Instituta obshchey i kommunal'noy gigiyeny imeni A.N.Sysina AMN SSSR.
(MERCURY--PHYSIOLOGICAL EFFECT) (AIR--POLLUTION)

SHLOM, Ye.Ye., inzh.; KURNOSOV, Yu.A., inzh.

Shortcomings in the construction and manufacture of excavator cranes. Energ.stroi. no.4:36-43 '58. (MIRA 12:2)

1. Leningradskiy filial instituta "Orgenergostroy."
(Excavating machinery)

SHLOM, Ye.Yo., inzh.; KURNOSOV, Yu.A., inzh.

Operation of the DUB-2400 and DUB-240CM automatic units which batch by weight. Energ. stroi. no.3:69-73 (13), 1960. (MIRA 14:9)

1. Leningradskiy filial instituta "Orgenergostroy".
(Concrete plants--Equipment and supplies)

GERSHANOVICH, G.L., inzh.; KURNOSOV, Yu.A., inzh.

Testing vertical transportation for continuous concreting in construction of the Krasnoyarsk Hydroelectric Power Station. Energ. stroi. no.26:55-60 '61. (MIRA 15:7)

1. Stroitel'stvo Bratskoy gidroelektrostantsii (for Gershanovich).
2. Leningradskiy filial Vsesoyuznogo instituta po proyektirovaniyu organizatsiy energeticheskogo stroitel'stva (for Kurnosov).
(Krasnoyarsk Hydroelectric Power Station—Concrete construction)
(Conveying machinery)

KURNOSOVA, A.I.; BAKANOVA, A.A., inzh.

Making up and calculation of yarn properties. Tekst. prom. 24 no.3:76-77 Mr '64. (MIRA 17:9)

1. Nachal'nik laboratorii Odesskoy dzhutovoy fabriki (for Kurnosova).
2. Laboratoriya Odesskoy dzhutovoy fabriki (for Bakanova).

KURNOSOVA, G.N.

Mesozoic spore and pollen complexes from Belogorka, Kas, and Yeloguy key wells in Krasnoyarsk Territory. Sbor. st. po palenont. i biostrat. no.19:74-100 '60. (MIRA 14:7)
(Krasnoyarsk Territory--Palynology)

[redacted], I. V.

"The Problem of Tissue Immunity and the Variability [redacted] in Influenza." Sanit Med Sci, Inst of Experimental Medicine, [redacted] Sci, Leningrad, 1953. (RZhBiol, No 1, Sep 5)

Sc: Sum 432, 29 Mar 55

KURNOSOVA, L.M.; ANTONOVA, N.I.

Clinical virusological data in chronic relapsing aphthous stomatitis. Stomatologiia 36 no.5:71-74 S-O '57. (MIRA 11:1)

1. Iz otdela virusologii (zav. - prof. A.A.Smorodintsev) Instituta eksperimental'noy meditsiny AMN SSSR i kafedry terapevticheskoy stomatologii (zav. - dotsent T.T.Shkolyar) Leningradskogo meditsinskogo stomotologicheskogo instituta.
(STOMATITIS) (HERPES SIMPLEX)

SHIKINA, Ye.S.; BOYCHUK, L.M.; KURNOSOVA, L.M.

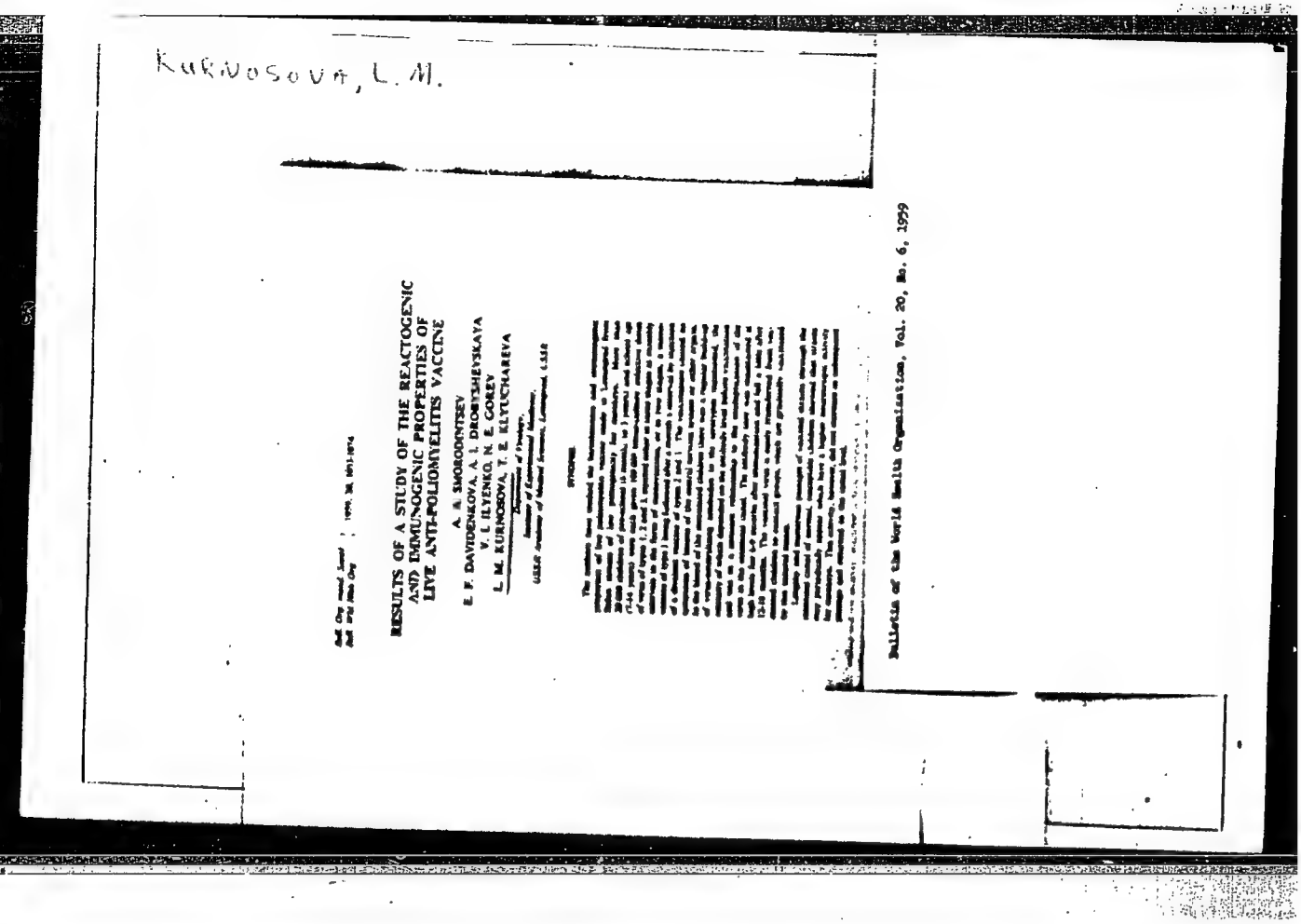
Reactogenic and immunogenic characteristics of smultaneous vaccination conducted with a live antiparotitis vaccine and a killed poliomyelitis vaccine. Trudy Len.inst.epid. i mikrobiol. 19:115-123 '59. (MIRA 16:2)

1. Iz virusologicheskoy laboratorii (rukovoditel' - chlen-korrespondent AMN SSSR prof. A.A. Smorodintsev) Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera.
(MUMPS--PREVENTIVE INOCULATION) (POLIOMYELITIS VACCINE)

KANTOROVICH, R.A.; KURNOSOVA, L.M.; ZHILOVA, G.P.

Study of the immunological structure of the population of Leningrad in relation to the poliomyelitis viruses. Trudy Len.inst. epid.i mikrobiol. 19:131-140 '59. (MIRA 16:2)

1. Iz laboratorii poliomiyelita (rukovoditel' Kh.S. Kotlyarova) Leningradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera i otdela virusologii Instituta epidemiologii i mikrobiologii AMN SSSR (rukovoditel' - chlen-korrespondent AMN SSSR prof. A.A. Smorodintsev).
(IMMUNOLOGY) (LENINGRAD--POLIOMYELITIS VIRUSES)



Kurnosova, L. M.

RESULTS OF A STUDY OF THE REACTOGENIC AND IMMUNOGENIC PROPERTIES OF LIVE ANTI-POLIOMYELITIS VACCINE

A. A. SMORODINTSEV
E. F. DAVIDENKOVA, A. I. DROBYSHEVSKAYA
V. I. ILYENKO, N. E. GOREV
L. M. KURNOSOVA, T. E. ELYUCHAREVA

Bulletin of the World Health Organization, Vol. 20, No. 6, 1959

SMORODINTSEV, A.A.; DROBYSHEVSKAYA, A.I.; BULYCHEV, N.P.; VASIL'YEV, K.G.; VOTYAKOV, V.I.; GROYSMAN, G.M.; ZHILOVA, G.P.; IL'YENKO, V.I.; KANTOROVICH, R.A.; KURNOSOVA, L.M.; CHALKINA, O.M.

Material on the immunological and epidemiological effectiveness of live poliomyelitis vaccine. Vest. AMN SSSR 15 no.6:45-58 '60. (MIRA 14:4)

1. Otdel virusologii Instituta eksperimental'noy meditsiny AMN SSSR.
(POLIOMYELITIS)

Immunological and Epidemiological Effectiveness of Live Poliomyelitis Vaccine in the USSR*

A. A. SMORODINTSEV, A. I. DROBYSHEVSKAYA, N. P. RYLTSEV, O. M. CHALKINA, G. M. GROSSMAN, V. I. ILYENKO, E. A. KANTOROVICH, L. M. KUSNETSOVA, E. G. VASILIEV, V. I. VOITSEKHOV & G. P. ZHILOVA

Bulletin of the World Health Organization, Vol. 23, No. 6, 1960.

*From the Virus Department, Inst. of Experimental Medicine, USSR Acad. Med. Sci.

GALKO, N.V.; KURNOSOVA, L.M.; MALININA, G.P.

Results of the study of the safety and immunological effectiveness of simultaneous vaccinations with live vaccines against poliomyelitis and mumps. Trudy Len.inst.epid.i mikrobiol. 22: 66-93 '61. (MIRA 16:2)

1. Iz virusologicheskoy laboratorii Leningradskogo instituta epidemiologii i mikrobiologii imeni Pastera i otdela virusologii Instituta epidemiologii i mikrobiologii AMN SSSR (zav. - chlen-korrespondent AMN SSSR prof. A.A. Smorodintsev).
(POLIOMYELITIS--VACCINATION)
(MUMPS--PREVENTIVE INOCULATION)

[illegible], L.M. [illegible], M.N.

Mode of action of sulfonamides on trachoma virus. Acta virol. (Praha)[Eng.] 8 no.4:350-358 JI '64.

1. The Helmholtz State Scientific Research Institute of Ophthalmology, Moscow.

KURNOSOVA, M. G.

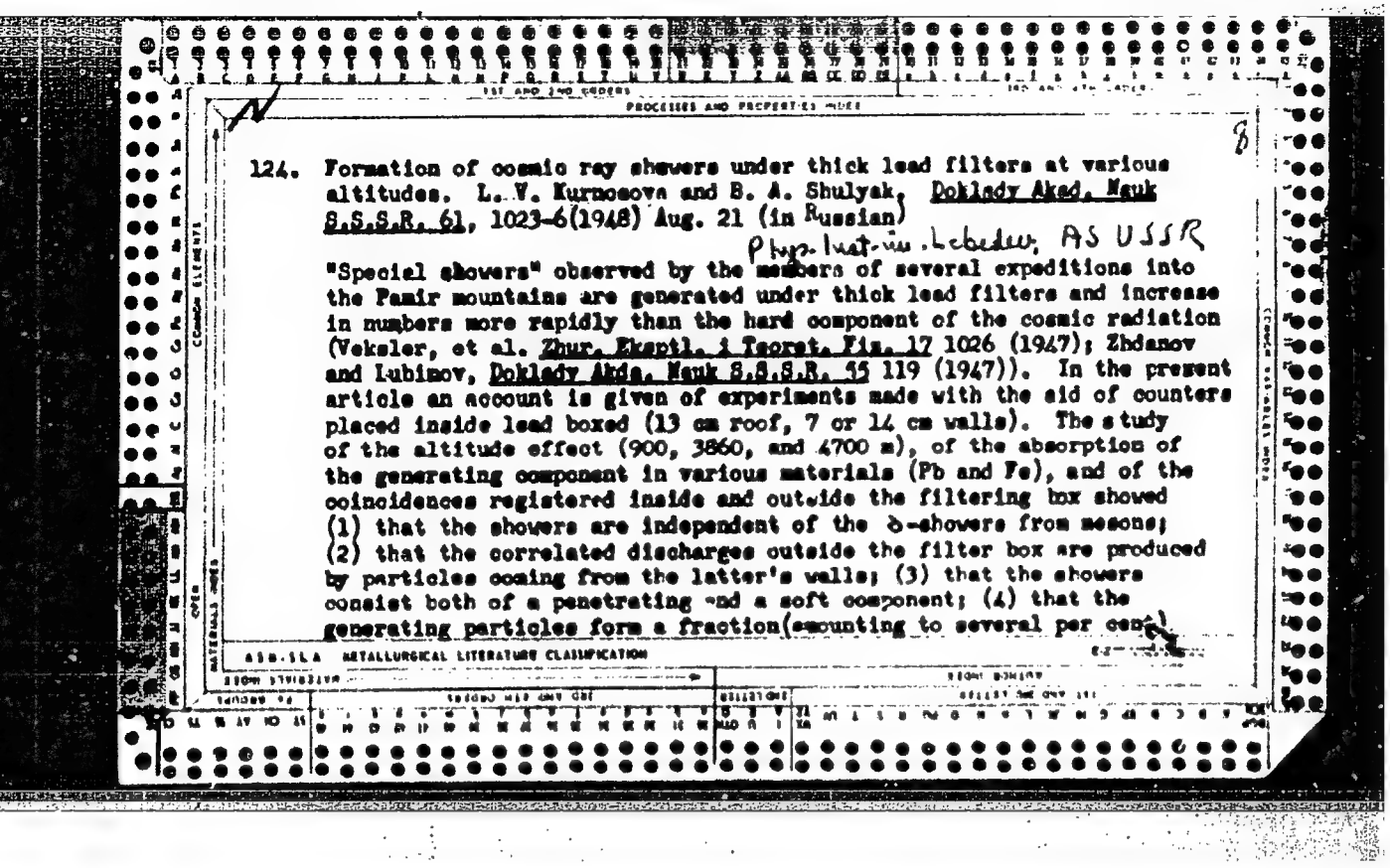
Milling Machines

Mechanization in the manufacture of cutters for relieving profile milling cutters. Stan. i instr. 23 no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1952, Uncl.

Production of cosmic-ray showers in thick layers of lead at different altitudes. V. I. Veksler, L. V. Kurnosova, and A. L. Lyubimov (P. N. Lebedev Phys. Inst., Acad. Sci. U.S.S.R., Moscow). *Zhur. Eksptl. Teoret. Fiz.* 17, 1023-33(1947).—Measurements of the 1946 Pamir expedition, at altitudes of 900, 3860, and 4900 m., and underground at a depth equiv. to 15 m. H_2O, confirmed that the showers generated by cosmic rays at great thicknesses of Pb decrease with increasing altitude much faster than does the penetrating component. Consequently, these showers, genetically related to narrow showers, cannot be meson δ-showers. Whereas the component which produces the narrow showers and the showers under Pb is penetrating, the showers themselves consist of particles of relatively low energy, possibly linked with nuclear fissions; the approx. parallelism between the altitude dependence of these fissions and of the showers under Pb is a point in favor of that hypothesis. The weak absorption of the generating component in dense substances, as compared with equiv. thicknesses of air, may be due to a disintegration of the generating particles. If so, the expts. may indicate a new kind of unstable particles.

N. Thon



124. Formation of cosmic ray showers under thick lead filters at various altitudes. L. V. Kurnosova and B. A. Shulyak, Doklady Akad. Nauk S.S.S.R. 61, 1023-6(1948) Aug. 21 (in Russian)

Phys. Inst. im. Lebedev, AS USSR

"Special showers" observed by the members of several expeditions into the Pamir mountains are generated under thick lead filters and increase in numbers more rapidly than the hard component of the cosmic radiation (Veksler, et al. Zhur. Eksptl. i Teoret. Fiz. 17 1026 (1947); Zhdanov and Lubimov, Doklady Akad. Nauk S.S.S.R. 55 119 (1947)). In the present article an account is given of experiments made with the aid of counters placed inside lead boxed (13 cm roof, 7 or 14 cm walls). The study of the altitude effect (900, 3860, and 4700 m), of the absorption of the generating component in various materials (Pb and Fe), and of the coincidences registered inside and outside the filtering box showed (1) that the showers are independent of the δ-showers from mesons; (2) that the correlated discharges outside the filter box are produced by particles coming from the latter's walls; (3) that the showers consist both of a penetrating and a soft component; (4) that the generating particles form a fraction (amounting to several per cent)

of the hard component of the cosmic radiation; (5) that they are probably primary protons producing short-lived mesons which disintegrate into electrons and photons of the soft part of the showers.

KORNB[illegible], [illegible]

[illegible], [illegible], [illegible], [illegible], [illegible], [illegible], [illegible] and [illegible]

[illegible]tronic-nuclear showers of cos[illegible] [illegible] [illegible]. (Work conducted at Physical Institute [illegible] Lebedev of Academy of Sciences USSR).

Journal of Experimental and Theoretical Physics Vol. [illegible], No. [illegible] Sept. [illegible].

KURNOSOVA, L.

155T50

USSR/Nuclear Physics - Cosmic Rays Dec 49
Showers, Electron-
Nuclear

"Measurement of the Altitude Behavior of Electron-Nuclear Showers," L. Kurnosova, N. Tikhonova, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 3 pp

"Dok Ak Nauk SSSR" Vol LXIX, No 4

Results of measurements made at altitudes of 6.5-10 km in "substratostats" (substratosphere balloons). Showed that curve of absorption in air for particles which form electron-nuclear showers

155T50

USSR/Nuclear Physics - Cosmic Rays (Contd) Dec 49

in lead is described by the exponential function: $n = \text{const } e^{-mx}$, where $1/m = 90$ g/sq cm. Correction for angular distribution of generating particles would make the latter constant about 100-120 g/sq cm. Submitted by Acad D. V. Skobel'tsyn 20 Aug 49.

155T50

KURNOSOVA, L. V.

USSR/ Physics - Electrons

Card 1/1 Pub. 77 - 8/23

Authors : Kurnosova, L. V.

Title : Electrons

Periodical : Nauka i Zhizn' 21/10, 20-22, Oct 1954

Abstract : A review is given of the usual facts found in textbooks on physics regarding the particles composing the atom, such as electrons, neutrons, mesons, photons, neutrinos, etc., and the movements of these particles, and the conversion of one into another are explained. The question of wave and quantum mechanics is discussed. The various ramifications of electronics, such as the construction of X-ray, radio and television equipment are woven into the discussion. Illustrations.

Institution : ...

Submitted : ...

KURNOSOVA, L. V.

USSR/Physics

Card 1/2

Authors : Kurnosova, L. V.

Title : Diffusion of photons of various energies on electrons

Periodical : Usp. Fiz. Nauk, 52, Ed. 4, 603 - 649, April 1954

Abstract : The data presented in this review confirm the correctness of quantum electrodynamic formulas for the differential and integral sections of photon diffusion on electrons in energy ranges of up to 20 mev. The experimental data pertaining to the energy ranges of up to 88 mev confirm the correctness of the formula for the integral diffusion section. At much higher energies (photons from synchrotrons and photons in cosmic rays) one can estimate the correctness of theoretical formulas of quantum electrodynamics for the diffusion on the basis of indirect data relative to the measurement of the total absorption coefficient of photons in the substance. Since the Compton diffusion section decreases with the increase in the energy of photons and its role in the total absorption coefficient is small, then in order to

Usp. Fiz. Nauk, 52, Ed. 4, 603 - 649, April 1954 (Additional card)

Card 2/2

Abstract : observe any essential change in the path of the absorption curve it is necessary to have considerable deviations from the formula of the Klein-Nishina-Tamm section. The indirect data give no indications regarding the existence of such deviations even at very high energies. There is also the possible effect of the particle structure which may affect the diffusion of photons at high energies. Fifty two references. Tables, graphs, drawings.

Institution : ....

Submitted : ....

Category : USSR/Nuclear Physics - Elementary Particles C-3

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 367

Author : Kurnosova, L.V., Razorenov, L.A., Cherenkov, P.A.
Inst : Phys. Inst. USSR Acad. of Sciences
Title : Scattering of 250 Mev Photons by Free Electrons

Orig Pub : Zh. eksperim. i teor. fiziki, 1956, 30, No 4, 690-694

Abstract : An investigation was made of the Compton scattering of 222 -- 233 and 235 -- 248 Mev photons for cases, when almost the entire photon energy is transferred to the recoil electrons. The electrons and positrons formed by the photons were deflected by a magnetic field and recorded by telescopes made of counters, connected for double coincidence. The values of the Compton-scattering cross sections were determined from the ratio to the value of the cross section of the formed pairs. The relationships obtained are in agreement, within the limits of precision of the measurements, with those calculated from the Bethe-Heitler equation for the pair-formation cross section and from the Klein-Nishina-Tamm equation for the Comptron-scattering cross section.

Card : 1/1

KURNOSOVA, L. V., GINZBURG, V. L., VERNOV, S. N., RAZORIONOV, L. A., and FRANKIN, M. I.

"Study of the Primary Cosmic Radiation by Using Artificial Satellites of the Earth," a paper presented at the 8th International Astronautical Congress 6-12 O t 1957, Barcelona.

KURNOSOVA, L.V.

26-12-2/49

AUTHORS: Skuridin, G.A., and Kurnosova, L.V., Candidates of Physico-Mathematical Sciences

TITLE: Scientific Research by Means of Artificial Satellites of the Earth (Nauchnyye issledovaniya pri pomoshchi iskusstvennykh sputnikov zemli)

PERIODICAL: Priroda, 1957, No 12, pp 7-14 (USSR)

ABSTRACT: The article deals with the problem of inquiring into the phenomena beyond the atmosphere by using artificial earth satellites. The idea to build satellites originates from the Russian scientist K.E. Tsiolkovskiy who years ago suggested sending them into the space by means of rockets. The two satellites recently launched by Soviet scientists are the first of a series of new research devices which in all probability will soon be commonly used for the study of the phenomena in the universe and for solving problems of space flight. According to the authors, Soviet scientists have developed a method of calculating the length of the operational capability of a satellite and also the changes in the orbit's parameters during the time of flight. The satellites will be able to collect important data on the characteristics of the

Card 1/5

Scientific Research by Means of Artificial Satellites of the Earth

atmosphere at altitudes of up to 1,700 km, to measure the full intensity of cosmic rays and to register ultraviolet and X-rays emitted by the sun. The two satellites are equipped with instruments for the study of the short wave part of the solar spectrum (Figure 2 explains the arrangement of apparatus registering ultraviolet and X-rays of the sun) which enables the investigation of various layers of the sun's atmosphere. Cosmic rays will be observed with apparatus as shown by Figures 3 and 4, collecting the necessary material for determining nuclear showers of low intensity. Other devices will enable to register variations of cosmic rays of different kinds (lasting 24 hours, 27 days etc) which will be obtained at different points of the globe almost simultaneously. Vital data are also expected on the influence of the sun's activity on the intensity of cosmic radiation. A further object of research is the structure of the atmosphere. The most important problem of physics of the atmosphere is to what extent its composition depends on the altitude, as reliable data exist only up to heights of 100 km. The satellites are also registering the

Card 2/5 corpuscular radiation of the sun, which is of vital importance

Scientific Research by Means of Artificial Satellites of the Earth

in the ionization of upper layers of the atmosphere, in the formation of polar lights and in geomagnetic disturbances. The study of the structure of the earth's magnetic field in regions above the strongly ionized layers of the upper atmosphere can probably answer the question of the earth's magnetic field and why it changes in the course of time. Microparticles of interplanetar substances moving about at high altitudes will be registered when touching the rocket's hull or special membranes as shown by Figure 6. The 2nd artificial satellite, which was launched on November 3, 1957, is described as follows. Its orbit has the shape of an elipse whose remotest point from the earth is approximately 1,700 km away. During 24 hours it circles the earth about 14 times. It carries, beside scientific equipment, 2 radio transmitters operating on frequencies of 40,002 and 20,005 megacycles respectively, electric batteries and an airtight cabin with a dog for experimental purposes. Contrary to the arrangement in the first satellite, "Sputnik No 2" carries all the equipment in the front part of the rocket's last stage. Only the radiometric measuring device is attached to the hull of the rocket. The total weight of the equipment, dog and electric batteries

Card 3/5

Scientific Research by Means of Artificial Satellites of the Earth

included, is 508.5 kg. Figure 1 shows the devices for investigating the sun's radiations as carried by "Sputnik No 2", Figure 2 the dog in the airtight cabin before being placed in the satellite. The cabin holds food for the dog, an air conditioning system (for regeneration and temperature control), instruments for registering pulse, respiration, blood pressure, for taking electro-cardiograms and a series of sensitive cells for measuring temperatures and pressure in the cabin. A radiotelemetric equipment enables the transmission of all measurements to the earth at regular intervals according to a prearranged plan. The dog's cabin and ball-shaped container are made of aluminum alloys. Their surface is polished and specially finished to attain a certain coefficient of radiation and to absorb solar radiation. Figure 3 shows the equipment for registering cosmic rays, Figure 4 the arrangement of the containers holding the satellite's equipment, Figure 5 a diagram showing the same arrangement.
There are 7 photos, 4 diagrams and 2 references, all of which are Slavic (Russian).

Card 4/5

26-12-2/49

Scientific Research by Means of Artificial Satellites of the Earth

ASSOCIATION: Institute of Geophysics imeni O.Yu. Shmidta of the AN, USSR (Moskva) (Institut fiziki zemli imeni O.Yu. Shmidt Akademii nauk SSSR (Moskva)
Institute of Physics imeni P.N. Lebedev of the AN, USSR (Moskva) (Fizicheskiy institut imeni P.N. Lebedeva Akademii nauk SSSR (Moskva)

AVAILABLE: Library of Congress

Card 5/5

53-1a-9/18

AUTHOR VERNOV, S.N., GINZBURG, V.L., KURNOSOVA, L.V., RAZORENOV, L.A., FRADKIN, M.I.

TITLE The Investigation of the Composition of Primary Cosmic Radiation (Issledovaniye sostava pervichnogo kosmicheskogo izlucheniya. Russian)

PERIODICAL Uspekhi Fiz. Nauk, 1957, Vol 63, Nr 1a, pp 131 - Nr 1b, p 148 (U.S.S.R.)

ABSTRACT According to the data available at present, cosmic radiation consists of protons, α-particles and, to a far less extent, of heavy nuclei. The distribution of the nuclei with $Z > 2$ has as yet not been investigated sufficiently well and also other problems are still to be solved. Rockets are not suited for such measurements because their time of flight outside the atmosphere is too short. By means of artificial earth satellites, however, the necessary statistical material for the investigation of rarely occurring heavy nuclei can be obtained. One of the most important problems concerns the numerical ratio between the currents of the light nuclei Li, Be, B and the nuclei C, N, O, F. By experimental determination of this ratio the various theories concerning the creation of cosmic radiation can be confirmed or rejected, If the particles of the cosmic radiation in the clouds of the supernovae are accelerated, a value $\geq 0{,}1$ is obtained for the ratio (Li, Be, B) / (C, N, O, F). In the case of this theory the ratio can also be somewhat higher, but never lower than 0,1. The data at present obtained for this ratio contradict each other. The problem whether or not nuclei with $Z > 30$ exist in cos-

Card 1/4

The Investigation of the Composition of Primary Cosmic Radiation

mic radiation can also be solved by means of artificial earth satellites. The existence of such nuclei in cosmic radiation would, on account of its large interaction cross section and the short range in the interstellar space, indicate an exceptionally large amount of heavy elements existing in the sources of cosmic radiation.

The experimental data on the composition of primary radiation: The results of the experiments carried out in 1952 - 1953 have already been published in form of a collection of articles. The respective results obtained within the last years have been compiled in two tables. The importance of the geographical location of the place of observation in the case of equal geomagnetic latitude is pointed out. From the point of view of determining the energy spectrum of the various nuclear groups in primary cosmic radiation, with the help of artificial earth satellites afford great possibilities, because in this way the intensity of the fluxes of the particles with various energies (even at different widths) can be determined by means of the same devices. This, naturally, will considerably increase the reliability of the data obtained concerning the energy spectrum of the primary nuclei. One of the most interesting problems of primary cosmic radiation is the determination of

The Investigation of the Composition of Primary Cosmic Radiation

the amount of the nuclei of the group Li, Be, B. 53-1a-9/18

The experimental method for the study of the charge spectrum of nuclei in primary cosmic radiation. Such methods are of advantage as do not discriminate the particles with respect to their charge and mass. The use of particle counters in the case of which, on the occasion of the passage of a particle, the produced pulse depends upon the charge of the particle, forms part of this method. The application of such devices to an artificial earth satellite is, besides, of advantage in-so-far as the measured data can be telegraphed to the earth. The disadvantages of methods which are based upon the ionization of a medium by rapidly charged particles, are enumerated. The CHEREKOV counter is free from such disadvantages. The conditions to be fulfilled when measuring by this method, are enumerated. The apparatus is disdussed on the basis of a drawing. During the time of observation of one week about 1000 nuclei with $Z \geqslant 6$ cm, 7000 α-particles and a corresponding number of Li-, Be- and B-nuclei can be registered. For the experiments it is intended to register the differential spectrum of the nuclei with respect to Z in the interval from the α-particle up to oxygen. Such a method is realizeable only if the device is able to solve every peak belonging to the various values of Z. The use of artificial satellites offers new possi-

Card 3/4

53-La-9,18

The Investigation of the Composition of Primary Cosmic Radiation

bilities for the investigation of the primary cosmic radiation; viz. measuring of the primary proton flux, explaining of the part played by the "albedo" of the atmosphere of the earth, the determination of the lower limit of the electron-positron components, the study of the interaction of the primary particles with matter and the variations with respect to time of intensity. (With 7 illustrations and 4 tables).

ASSOCIATION Not given
PRESENTED BY
SUBMITTED
AVAILABLE Library of Congress

Card 4/4

KURNOSOVA, L.V.; RAZORENOV, L.A.; FRADKIN, M.I.

Heavy nuclei in the primary cosmic radiation. Isk.sput.Zem. no.2:70-74 '58. (MIRA 12:5)
(Artificial satellites)
(Cosmic rays)